Hawaiian Island-Emperor Seamount Worksheet

Visiting the Moon – Without Leaving Idaho

Name _____

Date _____

Use the Hawaiian Island-Emperor Seamount (HIES) Map to estimate each island's distance from Loihi and number of million years ago it erupted. Use the Hawaiian Island-Emperor Seamount (HIES) Graph to plot the years vs. distance points

1. Plot and label each island on the HIES Graph as a years vs. distance point. Note that there is a change in direction at the northwest end of the Hawaiian Islands. Draw two separate best fit lines, one for the Hawaiian Islands and one for the Emperor Seamounts.

2. Calculate the slope for each of the best-fit lines.
   Change the distance to inches instead of miles.
   Change the time to years instead of million years.

   Hawaiian Islands slope = _____

   Emperor Seamount slope = _____

3. What do each of these slopes represent in this situation?

4. What direction is the plate moving generally now?

5. Since Mauna Kea last erupted, how far in inches has the Pacific plate moved? _____

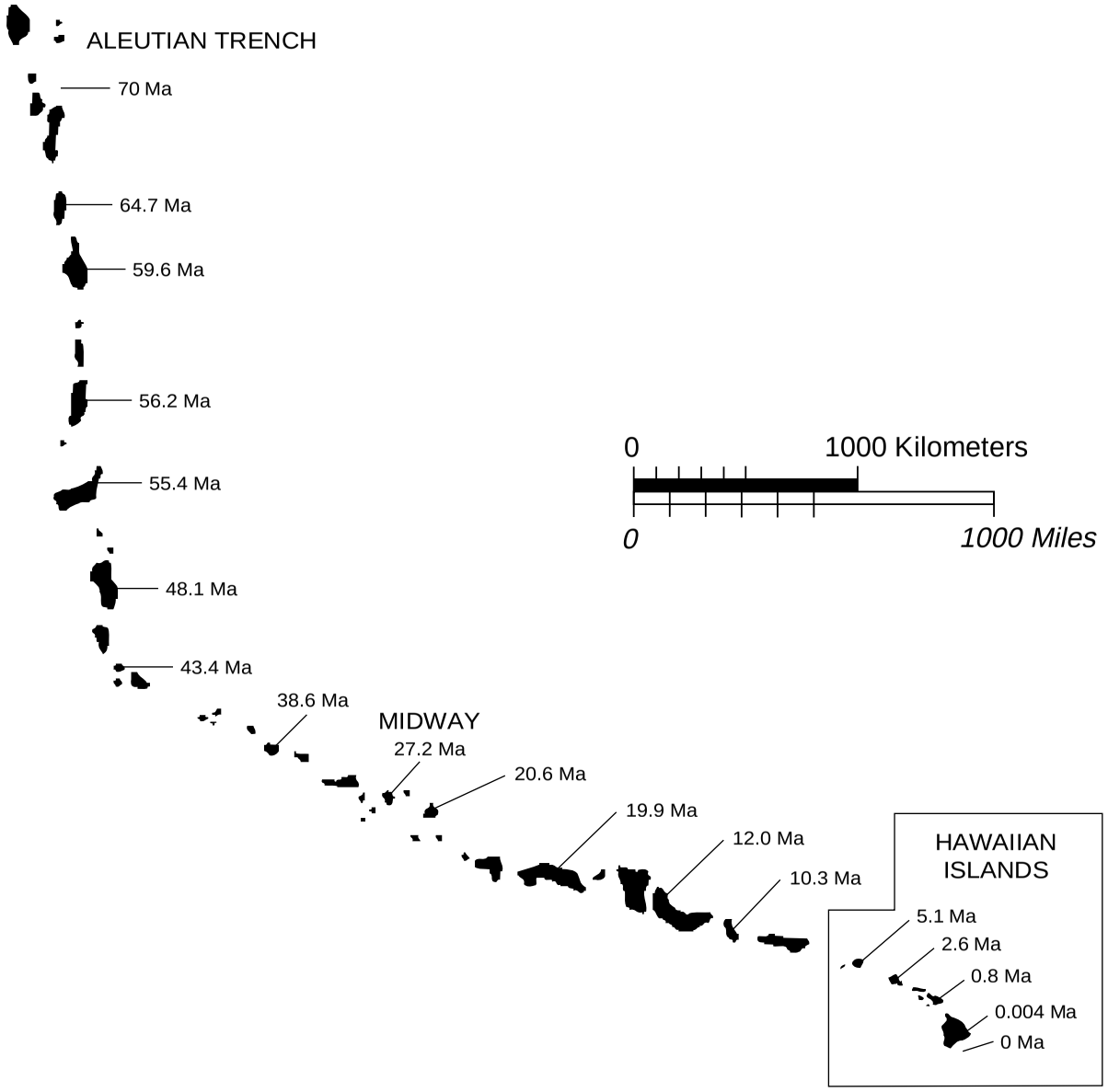
   in feet? _____

6. How far in inches will the plate move in the next 100 years? _____

   in feet? _____

7. What two things changed at the elbow?

Hawaiian Island – Emperor Seamount Map



HIES Plate Motion Graph